General

Guideline Title

Familial breast cancer: classification and care of people at risk of familial breast cancer and management of breast cancer and related risks in people with a family history of breast cancer.

Bibliographic Source(s)

National Collaborating Centre for Cancer. Familial breast cancer. Classification and care of people at risk of familial breast cancer and management of breast cancer and related risks in people with a family history of breast cancer. London (UK): National Institute for Health and Care Excellence (NICE); 2013 Jun. 57 p. (Clinical guideline; no. 164).

Guideline Status

This is the current release of the guideline.

This guideline updates previous versions: National Collaborating Centre for Primary Care. Clinical guidelines for the classification and care of women at risk of familial breast cancer in primary, secondary and tertiary care. London (UK): National Institute for Clinical Excellence (NICE); 2004 May. 311 p. [309 references]

National Collaborating Centre for Primary Care. Familial breast cancer. The classification and care of women at risk of familial breast cancer in primary, secondary and tertiary care. London (UK): National Institute for Health and Clinical Excellence (NICE); 2006 Jul. 75 p. [24 references]

Recommendations

Major Recommendations

Note from the National Guideline Clearinghouse (NGC): This guideline was developed by the National Collaborating Centre for Cancer (NCC-C) on behalf of the National Institute for Health and Care Excellence (NICE). See the "Availability of Companion Documents" field for the full version of this guidance.

Note: The wording used in the recommendations in this guideline (for example, words such as 'offer' and 'consider') denotes the certainty with which the recommendation is made (the strength of the recommendations). See the end of the "Major Recommendations" field for further descriptions of the strength of recommendations.

Labelling of recommendations: Recommendations are marked as [2004], [2004, amended 2013], [2006, amended 2013], [2013] or [new 2013].

- [2004] indicates that the evidence has not been updated and reviewed since 2004 publication.
- [2004, amended 2013] indicates that the evidence has not been updated and reviewed since 2004 publication but an amendment has been made to the recommendation.

- [2006, amended 2013] indicates that the evidence has not been updated and reviewed since 2006 publication but an amendment has been made to the recommendation.
- [2013] indicates that the evidence has been reviewed but no changes have been made to the recommendation.
- [new 2013] indicates that the evidence has been reviewed and the recommendation has been updated or added.

The recommendations in this guideline apply to women and men unless otherwise specified.

Clinical Significance of a Family History of Breast Cancer

Accuracy of Family History

Family History-Taking and Initial Assessment in Primary Care

When a person with no personal history of breast cancer presents with breast symptoms or has concerns about relatives with breast cancer, a first- and second-degree family history should be taken in primary care to assess risk, because this allows appropriate classification and care. [2004]

Healthcare professionals should respond to a person who presents with concerns but should not, in most instances, actively seek to identify people with a family history of breast cancer. [2004]

In some circumstances, it may also be clinically relevant to take a family history, for example, for women older than age 35 years using an oral contraceptive pill or for women being considered for long-term hormone replacement therapy (HRT) use. [2004]

A person should be given the opportunity to discuss concerns about their family history of breast cancer if it is raised during a consultation. [2004]

A second-degree family history (that is, including aunts, uncles, and grandparents) should be taken in primary care before explaining risks and options. [2004]

A second-degree family history needs to include paternal as well as maternal relatives. [2004]

Asking people to discuss their family history with relatives is useful in gathering the most accurate information. [2004]

Tools such as family history questionnaires and computer packages exist that can aid accurate collection of family history information and they should be made available. [2004]

For referral decisions, attempts should be made to gather as accurate information as possible on:

- Age of diagnosis of any cancer in relatives
- Site of tumours
- Multiple cancers (including bilateral disease)
- Jewish ancestry[1] [2004]

[1] Women with Jewish ancestry are around 5–10 times more likely to carry *BRCA1* or *BRCA2* mutations than women in non-Jewish populations.

Family History-Taking in Secondary Care

A family history should be taken when a person with no personal history of breast cancer presents with breast symptoms or has concerns about relatives with breast cancer. [2004]

A third-degree family history should be taken in secondary care where possible and appropriate. [2004]

Tools such as family history questionnaires and computer packages exist that can aid accurate collection of family history information and risk assessment and they should be made available. [2004]

Family History-Taking in a Specialist Genetic Clinic

A third-degree family history should be taken in a specialist genetic clinic for a person with no personal history of breast cancer, if this has not been done previously. [2004]

For accurate risk estimation, the following are required:

- Age of death of affected and unaffected relatives
- Current age of unaffected relatives [2004]

In general, it is not necessary to validate breast cancer-only histories (via medical records/cancer registry/death certificates). [2004]

If substantial management decisions, such as risk-reducing surgery, are being considered and no mutation has been identified, clinicians should seek confirmation of breast cancer-only histories (via medical records/cancer registry/death certificates). [2004]

Where no family history verification is possible, agreement by a multidisciplinary team should be sought before proceeding with risk-reducing surgery. [2004]

Abdominal malignancies at young ages and possible sarcomas should be confirmed in specialist care. [2004]

Family History and Carrier Probability

When available in secondary care, use a carrier probability calculation method with demonstrated acceptable performance (calibration and discrimination) as well as family history to determine who should be offered referral to a specialist genetic clinic. Examples of acceptable methods include Breast and Ovarian Analysis of Disease Incidence and Carrier Estimation Algorithm (BOADICEA) and the Manchester scoring system. [new 2013]

In a specialist genetic clinic, use a carrier probability calculation method with demonstrated acceptable performance (calibration and discrimination) to assess the probability of a *BRCA1* or *BRCA2* mutation. Examples of acceptable methods include BOADICEA and the Manchester scoring system. [new 2013]

If there are problems with using or interpreting carrier probability calculation methods, use clinical judgement when deciding whether to offer genetic testing. [new 2013]

Communicating Cancer Risk and Carrier Probability

People should be offered a personal risk estimate but information should also be given about the uncertainties of the estimation. [2004]

When a personal risk value is requested, it should be presented in more than one way (for example, a numerical value, if calculated, and qualitative risk). [2004]

People should be sent a written summary of their consultation in a specialist genetic clinic, which includes their personal risk information. [2004]

Information and Support

Effective care involves a balanced partnership between patients and healthcare professionals. Patients should have the opportunity to make informed choices about any treatment and care and to share in decision making. [2004]

To ensure a patient–professional partnership, patients should be offered individually tailored information, including information about sources of support (including local and national organisations). [2004]

Tailoring of information should take into account format (including whether written or taped) as well as the actual content and form that should be provided (see Box 1, below). [2004]

Standard information should be evidence based wherever possible, and agreed at a national level if possible (NICE information for the public provides a good starting point). [2004]

Standard information should not contradict messages from other service providers, including commonly agreed information across localities. [2004]

Box 1. Information Provision for People with Concerns about Familial Breast Cancer Risk

Standard Written Information for All People

- Risk information about population level and family history levels of risk, including a definition of family history
- The message that, if their family history alters, their risk may alter
- Breast awareness information
- Lifestyle advice regarding breast cancer risk, including information about:
    - HRT and oral contraceptives (women only)
    - Lifestyle, including diet, alcohol, etc.
    - Breastfeeding, family size and timing (women only)

- Contact details of those providing support and information, including local and national support groups
- People should be informed prior to appointments that they can bring a family member/friend with them to appointments.
- Details of any trials or studies that may be appropriate

For People Cared for in Primary Care

- Standard written information (as above)
- Advice to return to discuss any implications if there is a change in family history or breast symptoms develop

For People Being Referred to Secondary Care

- Standard written information (as above)
- Information about the risk assessment exercise that will take place and advice about how to obtain a comprehensive family history if required
- Information about potential outcomes, depending on the outcome of the risk assessment (including referral back to primary care, management within secondary care or referral to a specialist genetics service) and what may happen at each level

For People Being Referred Back to Primary Care

- Standard written information (as above)
- Detailed information about why secondary or a specialist genetics service are not needed
- Advice to return to primary care to discuss any implications if there is a change in family history or breast symptoms develop

For People Being Cared for in Secondary Care

- Standard written information (as above)
- Details of the risk assessment outcome, including why they are not being referred to a specialist genetics service
- Details of surveillance options including risk and benefits

For People Being Referred to a Specialist Genetic Clinic

- Standard written information (as above)
- Details of the risk assessment outcome, including why they are being referred to a specialist genetics service
- Details of surveillance options, including risk and benefits
- Details of what should be expected in a specialist genetics service, including counselling and genetic testing

For People Being Cared for in a Specialist Genetic Clinic

- Standard written information (as above)
- Information about hereditary breast cancer
- Information about genetic testing, both predictive testing and mutation finding, including details of what the tests mean and how informative they are likely to be, and the likely timescale of being given the results
- Information about the risks and benefits of risk-reducing surgery when it is being considered, including both physical and psychological impact

Care of People in Primary Care

Care and Management in Primary Care

People without a personal history of breast cancer can be cared for in primary care if the family history shows only one first-degree or second-degree relative diagnosed with breast cancer at older than age 40 years[2], provided that none of the following are present in the family history:

- Bilateral breast cancer
- Male breast cancer
- Ovarian cancer
- Jewish ancestry
- Sarcoma in a relative younger than age 45 years
- Glioma or childhood adrenal cortical carcinomas

- Complicated patterns of multiple cancers at a young age
- Paternal history of breast cancer (2 or more relatives on the father's side of the family) [2004]

People who do not meet the criteria for referral should be cared for in primary care by giving standard written information. [2004]

[2] In most cases, this will equate to less than a 3% 10-year risk of breast cancer at age 40 years.

Referral from Primary Care

People without a personal history of breast cancer who meet the following criteria should be offered referral to secondary care:

- One first-degree female relative diagnosed with breast cancer at younger than age 40 years or
- One first-degree male relative diagnosed with breast cancer at any age or
- One first-degree relative with bilateral breast cancer where the first primary was diagnosed at younger than age 50 years or
- Two first-degree relatives, or one first-degree and one second-degree relative, diagnosed with breast cancer at any age or
- One first-degree or second-degree relative diagnosed with breast cancer at any age and one first-degree or second-degree relative diagnosed with ovarian cancer at any age (1 of these should be a first-degree relative) or
- Three first-degree or second-degree relatives diagnosed with breast cancer at any age [2004]

Advice should be sought from the designated secondary care contact if any of the following are present in the family history in addition to breast cancers in relatives not fulfilling the above criteria:

- Bilateral breast cancer
- Male breast cancer
- Ovarian cancer
- Jewish ancestry
- Sarcoma in a relative younger than age 45 years
- Glioma or childhood adrenal cortical carcinomas
- Complicated patterns of multiple cancers at a young age
- Paternal history of breast cancer (2 or more relatives on the father's side of the family) [2004]

Discussion with the designated secondary care contact should take place if the primary care health professional is uncertain about the appropriateness of referral because the family history presented is unusual or difficult to make clear decisions about, or where the person is not sufficiently reassured by the standard information provided. [2004]

Direct referral to a specialist genetics service should take place where a high-risk predisposing gene mutation has been identified (for example, *BRCA1, BRCA2* or *TP53*). [2004]

Patient Education and Information

Information for Women Who Are Being Referred

Women who are being referred to secondary care or a specialist genetic clinic should be provided with written information about what happens at this stage. [2004]

Information and Ongoing Support for Women Who Are Not Being Referred

Support mechanisms (for example, risk counselling, psychological counselling and risk management advice) need to be identified, and should be offered to women not eligible for referral and/or surveillance on the basis of age or risk level who have ongoing concerns. [2004]

Support for Primary Care

Support is needed for primary care health professionals to care for women with a family history of breast cancer. Essential requirements for support for primary care are:

- A single point and locally agreed mechanism of referral for women identified as being at increased risk
- Educational materials about familial breast cancer
- Decision-support systems
- Standardised patient information leaflets
- A designated secondary care contact to discuss management of 'uncertain' cases [2004]

Care of People in Secondary Care and Specialist Genetic Clinics

Care and Management Approach in Secondary Care

Care of people in secondary care (such as a breast care team, family history clinic or breast clinic) should be undertaken by a multidisciplinary team. It should include the following:

- Written protocols for management
- Central, standardised resources
- Mammographic surveillance available to standard of the national breast screening programmes[3]
- Access to surveillance [new 2013]
- Access to a team offering risk-reducing surgery
- Standardised written information
- Designated/lead clinicians
- A designated contact for primary care
- A designated contact in a specialist genetic clinic
- Audit
- Clinical trials access
- Access to psychological assessment and counseling
- Information about support groups and voluntary organisations
- Administrative support [2004]

People who meet the following criteria should be offered secondary care and do not require referral to a specialist genetic clinic:

- One first-degree relative diagnosed with breast cancer at younger than age 40 years or
- Two first-degree or second-degree relatives diagnosed with breast cancer at an average age of older than 50 years or
- Three first-degree or second-degree relatives diagnosed with breast cancer at an average age of older than 60 years or
- A formal risk assessment (usually carried out in a specialist genetic clinic) or a family history pattern is likely to give risks of greater than 3%–8% risk in the next 10 years for women aged 40 years, or a lifetime risk of 17% or greater but less than 30%[4]
  Provided that none of the following are present in the family history:
  - Bilateral breast cancer
  - Male breast cancer
  - Ovarian cancer
  - Jewish ancestry
  - Sarcoma in a relative younger than 45 years of age
  - Glioma or childhood adrenal cortical carcinomas
  - Complicated patterns of multiple cancers at a young age
  - Very strong paternal history (four relatives diagnosed at younger than 60 years of age on the father's side of the family) [2004]

People whose risk does not meet the criteria for referral to secondary care (see recommendation in section "Referral from Primary Care" above) can be referred back to primary care:

- With appropriate information being offered and
- Support mechanisms (for example, risk counselling, psychological counselling and risk management advice) need to be identified, and should be offered to people not eligible for referral and/or surveillance on the basis of age or risk level who have ongoing concerns. [2004]

[3] National breast screening programmes: England – NHS Breast Screening Programme (NHSBSP); Wales – Breast Test Wales; Northern Ireland – NI Breast Screening Programme

[4] For the purpose of these calculations, a woman's age should be assumed to be 40 for a woman in her forties. A 10-year risk should be calculated for the age range 40–49.

Referral to a Specialist Genetic Clinic

People who meet the following referral criteria should be offered a referral to a specialist genetic clinic.

- At least the following female breast cancers only in the family:

    - Two first-degree or second-degree relatives diagnosed with breast cancer at younger than an average age of 50 years (at least one must be a first-degree relative) [2004] or
    - Three first-degree or second-degree relatives diagnosed with breast cancer at younger than an average age of 60 years (at least one must be a first-degree relative) [2004] or
    - Four relatives diagnosed with breast cancer at any age (at least one must be a first-degree relative) [2004] or
- Families containing one relative with ovarian cancer at any age and, on the same side of the family:
    - One first-degree relative (including the relative with ovarian cancer) or second-degree relative diagnosed with breast cancer at younger than age 50 years [2004] or
    - Two first-degree or second-degree relatives diagnosed with breast cancer at younger than an average age of 60 years [2004] or
    - Another ovarian cancer at any age [2004] or
- Families affected by bilateral cancer (each breast cancer has the same count value as one relative):
    - One first-degree relative with cancer diagnosed in both breasts at younger than an average age 50 years [2004] or
    - One first-degree or second-degree relative diagnosed with bilateral cancer and one first or second degree relative diagnosed with breast cancer at younger than an average age of 60 years [2004] or
- Families containing male breast cancer at any age and, on the same side of the family, at least:
    - One first-degree or second-degree relative diagnosed with breast cancer at younger than age 50 years [2004] or
    - Two first-degree or second-degree relatives diagnosed with breast cancer at younger than an average age of 60 years [2004] or
- A formal risk assessment has given risk estimates of:
    - A 10% or greater chance of a gene mutation being harboured in the family (see recommendations in section "Carrier Probability at Which Genetic Testing Should Be Offered" below) [new 2013] or
    - A greater than 8% risk of developing breast cancer in the next 10 years [2004] or
    - A 30% or greater lifetime risk of developing breast cancer [2004]

Clinicians should seek further advice from a specialist genetics service for families containing any of the following, in addition to breast cancers:

- Triple negative breast cancer under the age of 40 years [new 2013]
- Jewish ancestry [2004]
- Sarcoma in a relative younger than age 45 years [2004]
- Glioma or childhood adrenal cortical carcinomas [2004]
- Complicated patterns of multiple cancers at a young age [2004]
- Very strong paternal history (four relatives diagnosed at younger than 60 years of age on the father's side of the family) [2004]

The management of high-risk people may take place in secondary care if they do not want genetic testing or risk-reducing surgery and do not wish to be referred to a specialist genetics service. [2004]

Following initial consultation in secondary care, written information should be provided to reflect the outcomes of the consultation. [2004]

Care of People in a Specialist Genetic Clinic

Care of people referred to a specialist genetic clinic should be undertaken by a multi-disciplinary team. In addition to having access to the components found in secondary care, it should also include the following:

- Clinical genetic risk assessment
- Verification for abdominal malignancies and possible sarcomas [2004]

Genetic Counselling for People with no Personal History of Breast Cancer

Women with no personal history of breast cancer meeting criteria for referral to a specialist genetic clinic should be offered a referral for genetic counselling regarding their risks and options. [2004]

Women attending genetic counselling should receive standardised information beforehand describing the process of genetic counselling, information to obtain prior to the counselling session, the range of topics to be covered and brief educational material about hereditary breast cancer and genetic testing. [2004]

Predictive genetic testing should not be offered without adequate genetic counselling. [2004]

Genetic Testing

All eligible people should have access to information on genetic tests aimed at mutation finding. [2004]

Pre-test counselling (preferably two sessions) should be undertaken. [2004]

Discussion of genetic testing (predictive and mutation finding) should be undertaken by a healthcare professional with appropriate training. [2004]

Eligible people and their affected relatives should be informed about the likely informativeness of the test (the meaning of a positive and a negative test) and the likely timescale of being given the results. [2004]

Mutation Tests

Tests aimed at mutation finding should first be carried out on an affected family member where possible. [2004]

If possible, the development of a genetic test for a family should usually start with the testing of an affected individual (mutation searching/screening) to try to identify a mutation in the appropriate gene (such as *BRCA1*, *BRCA2* or *TP53*) (see recommendations in section "Carrier Probability at Which Genetic Testing Should Be Offered" below). [2004]

A search/screen for a mutation in a gene (such as *BRCA1*, *BRCA2* or *TP53*) should aim for as close to 100% sensitivity as possible for detecting coding alterations and the whole gene(s) should be searched. [2004]

Carrier Probability at Which Genetic Testing Should Be Offered

Discuss the potential risk and benefits of genetic testing. Include in the discussion the probability of finding a mutation, the implications for the individual and the family, and the implications of either a variant of uncertain significance or a null result (no mutation found). [new 2013]

Inform families with no clear genetic diagnosis that they can request review in the specialist genetic clinic at a future date. [new 2013]

Clinical genetics laboratories should record gene variants of uncertain significance and known pathogenic mutations in a searchable electronic database. [new 2013]

Genetic Testing for a Person with No Personal History of Breast Cancer But with an Available Affected Relative

Offer genetic testing in specialist genetic clinics to a relative with a personal history of breast and/or ovarian cancer if that relative has a combined *BRCA1* and *BRCA2* mutation carrier probability of 10% or more. [new 2013]

Genetic Testing for a Person with No Personal History of Breast Cancer and No Available Affected Relative to Test

Offer genetic testing in specialist genetic clinics to a person with no personal history of breast or ovarian cancer if their combined *BRCA1* and *BRCA2* mutation carrier probability is 10% or more and an affected relative is unavailable for testing. [new 2013]

Genetic Testing for a Person with Breast or Ovarian Cancer

Offer genetic testing in specialist genetic clinics to a person with breast or ovarian cancer if their combined *BRCA1* and *BRCA2* mutation carrier probability is 10% or more. [new 2013]

Genetic Testing for BRCA1, BRCA2 *and* TP53 *Mutations Within 4 Weeks of Diagnosis of Breast Cancer*

Offer people eligible for referral to a specialist genetic clinic a choice of accessing genetic testing during initial management or at any time thereafter. [new 2013]

Offer fast-track genetic testing (within 4 weeks of a diagnosis of breast cancer) only as part of a clinical trial. [new 2013]

Discuss the individual needs of the person with the specialist genetics team as part of the multidisciplinary approach to care. [new 2013]

Offer detailed consultation with a clinical geneticist or genetics counsellor to all those with breast cancer who are offered genetic testing, regardless of the timeframe for testing. [new 2013]

Surveillance and Strategies for Early Detection of Breast Cancer

Breast Awareness

Women at increased risk of breast cancer should be "breast aware" in line with Department of Health advice for all women. [2004]

Surveillance for Women with No Personal History of Breast Cancer

Ultrasound Surveillance

Do not routinely offer ultrasound surveillance to women at moderate or high risk of breast cancer but consider it:

- When magnetic resonance imaging (MRI) surveillance would normally be offered but is not suitable (for example, because of claustrophobia)
- When results of mammography or MRI are difficult to interpret [2013]

Mammographic Surveillance

Offer annual mammographic surveillance to women:

- Aged 40–49 years at moderate risk of breast cancer
- Aged 40–59 years at high risk of breast cancer but with a 30% or lower probability of being a *BRCA* or *TP53* carrier
- Aged 40–59 years who have not had genetic testing but have a greater than 30% probability of being a *BRCA* carrier
- Aged 40–69 years with a known *BRCA1* or *BRCA2* mutation [new 2013]

Offer mammographic surveillance as part of the population screening programme to women:

- Aged 50 years and over who have not had genetic testing but have a greater than 30% probability of being a *TP53* carrier
- Aged 60 years and over at high risk of breast cancer but with a 30% or lower probability of being a *BRCA* or *TP53* carrier
- Aged 60 years and over at moderate risk of breast cancer
- Aged 60 years and over who have not had genetic testing but have a greater than 30% probability of being a *BRCA* carrier
- Aged 70 years and over with a known *BRCA1* or *BRCA2* mutation [new 2013]

Consider annual mammographic surveillance for women:

- Aged 30–39 years at high risk of breast cancer but with a 30% or lower probability of being a *BRCA* or *TP53* carrier
- Aged 30–39 years who have not had genetic testing but have a greater than 30% probability of being a *BRCA* carrier
- Aged 30–39 years with a known *BRCA1* or *BRCA2* mutation
- Aged 50–59 years at moderate risk of breast cancer [new 2013]

Do not offer mammographic surveillance to women:

- Aged 29 years and under
- Aged 30–39 years at moderate risk of breast cancer
- Aged 30–49 years who have not had genetic testing but have a greater than 30% probability of being a *TP53* carrier
- Of any age with a known *TP53* mutation [new 2013]

MRI Surveillance

Offer annual MRI surveillance to women:

- Aged 30–49 years who have not had genetic testing but have a greater than 30% probability of being a *BRCA* carrier
- Aged 30–49 years with a known *BRCA1* or *BRCA2* mutation
- Aged 20–49 years who have not had genetic testing but have a greater than 30% probability of being a *TP53* carrier
- Aged 20–49 years with a known *TP53* mutation [new 2013]

Consider annual MRI surveillance for women aged 50–69 years with a known *TP53* mutation. [new 2013]

Do not offer MRI to women:

- Of any age at moderate risk of breast cancer
- Of any age at high risk of breast cancer but with a 30% or lower probability of being a *BRCA* or *TP53* carrier
- Aged 20–29 years who have not had genetic testing but have a greater than 30% probability of being a BRCA carrier
- Aged 20–29 years with a known *BRCA1* or *BRCA2* mutation
- Aged 50–69 years who have not had genetic testing but have a greater than 30% probability of being a *BRCA* or a *TP53* carrier, unless mammography has shown a dense breast pattern
- Aged 50–69 years with a known *BRCA1* or *BRCA2* mutation, unless mammography has shown a dense breast pattern [new 2013]

Also see the "Summary of Recommendations on Surveillance for Women with No Personal History of Breast Cancer," section below.

Surveillance for Women with a Personal and Family History of Breast Cancer

Ensure that all women with breast cancer are offered annual mammography for 5 years for follow-up imaging, in line with the NICE guideline Early and locally advanced breast cancer. Diagnosis and treatment (NICE clinical guideline 80). In conjunction with follow-up, women who remain at high risk of breast cancer and have a family history should receive surveillance as outlined in the recommendations below. [new 2013]

Mammographic Surveillance

Offer annual mammographic surveillance to all women aged 50–69 years with a personal history of breast cancer who:

- Remain at high risk of breast cancer (including those who have a *BRCA1* or *BRCA2* mutation), and
- Do not have a *TP53* mutation [new 2013]

Offer mammography as part of the population screening programme for all women aged 70 years and over with a personal history of breast cancer who:

- Remain at high risk of breast cancer (including those who have a *BRCA1* or *BRCA2* mutation), and
- Do not have a *TP53* mutation [new 2013]

MRI Surveillance

Offer annual MRI surveillance to all women aged 30–49 years with a personal history of breast cancer who remain at high risk of breast cancer, including those who have a *BRCA1* or *BRCA2* mutation. [new 2013]

Do not offer MRI surveillance to any women aged 50 years and over without a *TP53* mutation unless mammography has shown a dense breast pattern. [new 2013]

Consider annual MRI surveillance for women aged 20–69 years with a known *TP53* mutation or who have not had a genetic test but have a greater than 30% probability of being a *TP53* carrier. [new 2013]

Surveillance for Women Who Remain at Moderate Risk of Breast Cancer

Ensure that surveillance for people with a personal history of breast cancer who remain at moderate risk of breast cancer is in line with the NICE guideline Early and locally advanced breast cancer. Diagnosis and treatment (NICE clinical guideline 80). [new 2013]

Recommendations for All Women Having Surveillance

Offer support (for example, risk counselling, psychological counselling and risk management advice) to women who have ongoing concerns but are not eligible for surveillance additional to that offered by the national breast screening programmes[3]. [2004, amended 2013]

Before decisions on surveillance are made, discuss and give written information on the benefits and risks of surveillance, including:

- The possibility that mammography might miss a cancer in women with dense breasts and the increased likelihood of further investigations [new 2013]
- Possible over-diagnosis
- The risk associated with exposure to radiation
- The possible psychological impact of a recall visit [2004, amended 2013]

Review eligibility for surveillance if family history changes (for example, if another member of the family develops breast cancer or a mutation is identified). [new 2013]

At the start of a surveillance programme and when there is a transition or change to the surveillance plan, give women:

- Information about the surveillance programme, including details of the tests, how often they will have them and the duration of the programme
- Information about the risks and benefits of surveillance
- Details of sources of support and further information [2006, amended 2013]

Ensure that women know and understand the reasons for any changes to the surveillance plan. [2006, amended 2013]

For women under 50 years who are having mammography, use digital mammography at centres providing digital mammography to national breast screening programme standards. [new 2013]

Ensure that individual strategies are developed for all women having mammographic surveillance and that surveillance is:

- To national breast screening programme standards
- Audited
- Only undertaken after written information is given about risks and benefits [new 2013]

Ensure that MRI surveillance includes MRI of both breasts performed to national breast screening programme standards. [2006, amended 2013]

When women not known to have a genetic mutation are referred to a specialist genetic clinic, offer them assessment of their carrier probability using a carrier probability calculation method with acceptable performance (calibration and discrimination) to determine whether they meet or will meet the criteria for surveillance. (An example of an acceptable method is BOADICEA.) [new 2013]

Do not offer surveillance to women who have undergone a bilateral mastectomy. [new 2013]

[3] National breast screening programmes: England – NHS Breast Screening Programme (NHSBSP); Wales – Breast Test Wales; Northern Ireland – NI Breast Screening Programme

Risk Reduction and Treatment Strategies

Risk Factors

People should be provided with standardised written information about risk, including age as a risk factor. [2004]

Modifiable risk factors should be discussed on an individual basis in the relevant care setting. [2004]

Menstrual and Reproductive Factors

Healthcare professionals should be able to provide information on the effects of hormonal and reproductive factors on breast cancer risk. [2004]

Hormonal Contraceptives

Advice to women up to age 35 years with a family history of breast cancer should be in keeping with general health advice on the use of the oral contraceptive pill. [2004]

Women aged over 35 years with a family history of breast cancer should be informed of an increased risk of breast cancer associated with taking the oral contraceptive pill, given that their absolute risk increases with age. [2004]

For women with *BRCA1* mutations, the conflicting effects of a potential increased risk of breast cancer under the age of 40 years and the lifetime protection against ovarian cancer risk from taking the oral contraceptive pill should be discussed. [2004]

Women should not be prescribed the oral contraceptive pill purely for prevention of cancer, although in some situations reduction in ovarian cancer risk may outweigh any increase in risk of breast cancer. [2004]

If a woman has a *BRCA1* mutation and is considering a risk-reducing oophorectomy before the age of 40 years, the oral contraceptive pill should not be prescribed purely for the reduction in ovarian cancer risk. [2004]

Breastfeeding

Women should be advised to breastfeed if possible because this is likely to reduce their risk of breast cancer, and is in accordance with general health advice. [2004]

Hormone Replacement Therapy

Women with a family history of breast cancer who are considering taking, or already taking, HRT should be informed of the increase in breast cancer risk with type and duration of HRT. [2004]

Advice to individual women on the use of HRT should vary according to the individual clinical circumstances (such as asymptomatic menopausal symptoms, age, severity of menopausal symptoms, or osteoporosis). [2004]

HRT usage in a woman at familial risk should be restricted to as short a duration and as low a dose as possible. Oestrogen-only HRT should be

prescribed where possible. [2004]

A woman having an early (natural or artificial) menopause should be informed of the risks and benefits of HRT, but generally HRT usage should be confined to women younger than age 50 years if at moderate or high risk (see also recommendations in the section "HRT for Women with No Personal History of Breast Cancer Who Have a Bilateral Salpingo-oophorectomy before the Natural Menopause" below). [2004]

Alternatives to HRT should be considered for specific symptoms such as osteoporosis or menopausal symptoms (see also recommendations in the section "HRT for Women with No Personal History of Breast Cancer Who Have a Bilateral Salpingo-oophorectomy before the Natural Menopause" below). [2004]

Consideration should be given to the type of HRT if it is being considered for use in conjunction with risk-reducing gynaecological surgery. [2004]

Alcohol Consumption

Women with a family history should be informed that alcohol may increase their risk of breast cancer slightly. However, this should be considered in conjunction with any potential benefit of moderate alcohol intake on other conditions (such as heart disease) and adverse effects associated with excessive alcohol intake. [2004]

Smoking

Women should be advised not to smoke, in line with current health advice. [2004]

Weight and Physical Activity

Women should be advised on the probable increased postmenopausal risk of breast cancer from being overweight. [2004]

Women should be advised about the potential benefits of physical exercise on breast cancer risk. [2004]

Chemoprevention for Women with No Personal History of Breast Cancer

Healthcare professionals within a specialist genetic clinic should discuss and give written information on the absolute risks and benefits of all options for chemoprevention to women at high risk or moderate risk of breast cancer. Discussion and information should include the side effects of drugs, the extent of risk reduction, and the risks and benefits of alternative approaches, such risk-reducing surgery and surveillance. [new 2013]

Offer tamoxifen[5] for 5 years to premenopausal women at high risk of breast cancer unless they have a past history or may be at increased risk of thromboembolic disease or endometrial cancer. [new 2013]

Offer tamoxifen[5] for 5 years to postmenopausal women without a uterus and at high risk of breast cancer unless they have a past history or may be at increased risk of thromboembolic disease or they have a past history of endometrial cancer. [new 2013]

Offer either tamoxifen[5] or raloxifene[6] for 5 years to postmenopausal women with a uterus and at high risk of breast cancer unless they have a past history or may be at increased risk of thromboembolic disease or endometrial cancer. [new 2013]

Do not offer tamoxifen or raloxifene to women who were at high risk of breast cancer but have had a bilateral mastectomy. [new 2013]

Consider prescribing tamoxifen[5] for 5 years to premenopausal women at moderate risk of developing breast cancer, unless they have a past history or may be at increased risk of thromboembolic disease or endometrial cancer. [new 2013]

Consider prescribing tamoxifen[5] for 5 years to postmenopausal women without a uterus and at moderate risk of developing breast cancer, unless they have a past history or may be at increased risk of thromboembolic disease or they have a past history of endometrial cancer. [new 2013]

Consider prescribing either tamoxifen[5] or raloxifene[6] for 5 years to postmenopausal women with a uterus and at moderate risk of developing breast cancer, unless they have a past history or may be at increased risk of thromboembolic disease or endometrial cancer. [new 2013]

Do not continue treatment with tamoxifen or raloxifene beyond 5 years. [new 2013]

Inform women that they should stop tamoxifen[5] at least:

- 2 months before trying to conceive
- 6 weeks before elective surgery [new 2013]

[5] At the time of publication (June 2013), tamoxifen did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information.

[6] At the time of publication (June 2013), raloxifene did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information.

Risk-Reducing Mastectomy for Women with No Personal History of Breast Cancer

Bilateral risk-reducing mastectomy is appropriate only for a small proportion of women who are from high-risk families and should be managed by a multidisciplinary team. [2004]

Bilateral mastectomy should be raised as a risk-reducing strategy option with all women at high risk. [2004]

Women considering bilateral risk-reducing mastectomy should have genetic counselling in a specialist cancer genetic clinic before a decision is made. [2004]

Discussion of individual breast cancer risk and its potential reduction by surgery should take place and take into account individual risk factors, including the woman's current age (especially at extremes of age ranges). [2004]

Family history should be verified where no mutation has been identified before bilateral risk-reducing mastectomy. [2004]

Where no family history verification is possible, agreement by a multidisciplinary team should be sought before proceeding with bilateral risk-reducing mastectomy. [2004]

Pre-operative counselling about psychosocial and sexual consequences of bilateral risk-reducing mastectomy should be undertaken. [2004]

The possibility of breast cancer being diagnosed histologically following a risk-reducing mastectomy should be discussed pre-operatively. [2004]

All women considering bilateral risk-reducing mastectomy should be able to discuss their breast reconstruction options (immediate and delayed) with a member of a surgical team with specialist oncoplastic or breast reconstructive skills. [2004]

A surgical team with specialist oncoplastic/breast reconstructive skills should carry out risk-reducing mastectomy and/or reconstruction. [2004]

Women considering bilateral risk-reducing mastectomy should be offered access to support groups and/or women who have undergone the procedure. [2004]

Risk-Reducing Oophorectomy for Women with No Personal History of Breast Cancer

Risk-reducing bilateral oophorectomy is appropriate only for a small proportion of women who are from high-risk families and should be managed by a multidisciplinary team. [2004]

Information about bilateral oophorectomy as a potential risk-reducing strategy should be made available to women who are classified as high risk. [2004]

Family history should be verified where no mutation has been identified before bilateral risk-reducing oophorectomy. [2004]

Where no family history verification is possible, agreement by a multidisciplinary team should be sought before proceeding with bilateral risk-reducing oophorectomy. [2004]

Any discussion of bilateral oophorectomy as a risk-reducing strategy should take fully into account factors such as anxiety levels on the part of the woman concerned. [2004]

Healthcare professionals should be aware that women being offered risk-reducing bilateral oophorectomy may not have been aware of their risks of ovarian cancer as well as breast cancer and should be able to discuss this. [2004]

The effects of early menopause should be discussed with any woman considering risk-reducing bilateral oophorectomy. [2004]

Options for management of early menopause should be discussed with any woman considering risk-reducing bilateral oophorectomy, including the advantages, disadvantages and risk impact of HRT. [2004]

Women considering risk-reducing bilateral oophorectomy should have access to support groups and/or women who have undergone the procedure. [2004]

Women considering risk-reducing bilateral oophorectomy should be informed of possible psychosocial and sexual consequences of the procedure and have the opportunity to discuss these issues. [2004]

Women not at high risk who raise the possibility of risk-reducing bilateral oophorectomy should be offered appropriate information, and if seriously considering this option should be offered referral to the team that deals with women at high risk. [2004]

Women undergoing bilateral risk-reducing oophorectomy should have their fallopian tubes removed as well. [2004]

HRT for Women with No Personal History of Breast Cancer Who Have a Bilateral Salpingo-Oophorectomy before the Natural Menopause

When women with no personal history of breast cancer have either a *BRCA1* or *BRCA2* mutation or a family history of breast cancer and they have had a bilateral salpingo-oophorectomy before their natural menopause, offer them:

- Combined HRT if they have a uterus
- Oestrogen-only HRT if they don't have a uterus
  Up until the time they would have expected natural menopause (average age for natural menopause is 51–52 years). [new 2013]

Manage menopausal symptoms occurring when HRT is stopped in the same way as symptoms of natural menopause. [new 2013]

Risk-Reducing Breast or Ovarian Surgery for People with a Personal History of Breast Cancer

Counselling

Refer women with a personal history of breast cancer who wish to consider risk-reducing surgery for appropriate genetic and psychological counselling before surgery. [new 2013]

Risk-Reducing Mastectomy

Discuss the risks and benefits of risk-reducing mastectomy with women with a known or suspected *BRCA1*, *BRCA2* or *TP53* mutation. [new 2013]

For a woman considering risk-reducing mastectomy, include in the discussion of risks and benefits:

- The likely prognosis of their breast cancer, including their risk of developing a distal recurrence of their previous breast cancer
- A clear quantification of the risk of developing breast cancer in the other breast
- The potential negative impact of mastectomy on body image and sexuality
- The very different appearance and feel of the breasts after reconstructive surgery
- The potential benefits of reducing the risk in the other breast and relieving the anxiety about developing breast cancer [new 2013]

Give all women considering a risk-reducing mastectomy the opportunity to discuss their options for breast reconstruction (immediate and delayed) with a member of a surgical team with specialist skills in oncoplastic surgery or breast reconstruction. [new 2013]

Ensure that risk-reducing mastectomy and breast reconstruction are carried out by a surgical team with specialist skills in oncoplastic surgery and breast reconstruction. [new 2013]

Offer women who have *BRCA1*, *BRCA2* or *TP53* mutations but who decide against risk-reducing mastectomy, surveillance according to their level of risk. [new 2013]

Risk-Reducing Bilateral Salpingo-Oophorectomy

Discuss the risks and benefits of risk-reducing bilateral salpingo-oophorectomy with women with a known or suspected *BRCA1*, *BRCA2* or *TP53* mutation. Include in the discussion the positive effects of reducing the risk of breast and ovarian cancer and the negative effects of a surgically induced menopause. [new 2013]

Defer risk-reducing bilateral salpingo-oophorectomy until women have completed their family. [new 2013]

Contraindications to Risk-Reducing Surgery for People with a Personal History of Breast Cancer

Do not offer risk-reducing surgery to people with comorbidities that would considerably increase the risks of surgery. [new 2013]

Do not offer risk-reducing surgery to people who have a limited life expectancy from their cancer or other conditions. [new 2013]

Treatment Options for People with a Personal History of Breast Cancer Who Are *TP53* Mutation Carriers

When a person has invasive breast cancer or ductal carcinoma in situ and is known to have a *TP53* mutation or a 30% probability of a *TP53* mutation:

- Inform them of all the possible treatment options.
- Make sure they know about the uncertainties associated with these treatment options.
- Inform them of the risks associated with each treatment (for example, the risk of recurrence, the risk of new primary breast cancer and the risks of malignancy associated with radiotherapy and chemotherapy). [new 2013]

Offer people with invasive breast cancer or ductal carcinoma *in situ* and a 30% probability of a *TP53* mutation, genetic testing to help determine their treatment options [new 2013]

Summary of Recommendations on Surveillance for Women with no Personal History of Breast Cancer

	Moderate Risk	High Risk				
Age	Moderate risk of breast cancer[1]	High risk of breast cancer (but with a 30% or lower probability of being a BRCA or *TP53* carrier)[2]	Untested but greater than 30% *BRCA* carrier probability[3]	Known *BRCA1* or *BRCA2* mutation	Untested but greater than 30% *TP53* carrier probability[4]	Known *TP53* mutation
20-29	Do not offer mammography	Do not offer mammography	Do not offer mammography	Do not offer mammography	Do not offer mammography	Do not offer mammography
	Do not offer MRI	Do not offer MRI	Do not offer MRI	Do not offer MRI	Annual MRI	Annual MRI
30-39	Do not offer mammography	Consider annual mammography	Annual MRI and consider annual mammography	Annual MRI and consider annual mammography	Do not offer mammography	Do not offer mammography
	Do not offer MRI	Do not offer MRI			Annual MRI	Annual MRI
40-49	Annual mammography	Annual mammography	Annual mammography and annual MRI	Annual mammography and annual MRI	Do not offer mammography	Do not offer mammography
	Do not offer MRI	Do not offer MRI			Annual MRI	Annual MRI
50-59	Consider annual mammography	Annual mammography	Annual mammography	Annual mammography	Mammography as part of the population screening programme	Do not offer mammography
	Do not offer MRI	Do not offer MRI	Do not offer MRI unless dense breast pattern	Do not offer MRI unless dense breast pattern	Do not offer MRI unless dense breast pattern	Consider annual MRI
60-69	Mammography	Mammography as part of	Mammography	Annual	Mammography	Do not offer

	as part of the population screening programme	Moderate Risk	High Risk	as part of the population screening programme	mammography	as part of the population screening programme	mammography
Age	Moderate risk of breast cancer[1]	High risk of breast cancer (but with a 30% or lower probability of being a *BRCA* or *TP53* carrier)[2]	Untested but greater than 30% probability[3]	Known *BRCA1* or *BRCA2* mutation	Untested but greater than 30% probability[4]	Known *TP53* mutation
	Do not offer MRI	Do not offer MRI	Do not offer MRI unless dense breast pattern	Do not offer MRI unless dense breast pattern	Do not offer MRI unless dense breast pattern	Consider annual MRI
70+	Mammography as part of the population screening programme	Mammography as part of the population screening programme	Mammography as part of the population screening programme	Mammography as part of the population screening programme	Mammography as part of the population screening programme	Do not offer mammography

[1] Lifetime risk of developing breast cancer is at least 17% but less than 30%.

[2] Lifetime risk of developing breast cancer is at least 30%. High risk group includes rare conditions that carry an increased risk of breast cancer, such as Peutz-Jegher syndrome (*STK11*), Cowden (*PTEN*), familial diffuse gastric cancer (E-Cadherin).

[3] Surveillance recommendations for this group reflect the fact that women who at first assessment had a 30% or greater *BRCA* carrier probability and reach 60 years of age without developing breast or ovarian cancer will now have a lower than 30% carrier probability and should no longer be offered MRI surveillance.

[4] Surveillance recommendations for this group reflect the fact that women who at first assessment had a 30% or greater *TP53* carrier probability and reach 50 years of age without developing breast cancer or any other *TP53*-related malignancy will now have a lower than 30% carrier probability and should no longer be offered MRI surveillance.

Definitions:

Strength of Recommendations

Some recommendations can be made with more certainty than others. The Guideline Development Group (GDG) makes a recommendation based on the trade-off between the benefits and harms of an intervention, taking into account the quality of the underpinning evidence. For some interventions, the GDG is confident that, given the information it has looked at, most patients would choose the intervention. The wording used in the recommendations in this guideline denotes the certainty with which the recommendation is made (the strength of the recommendation).

Interventions That Must (or Must Not) Be Used

The GDG usually uses 'must' or 'must not' only if there is a legal duty to apply the recommendation. Occasionally 'must' (or 'must not') is used if the consequences of not following the recommendation could be extremely serious or potentially life threatening.

Interventions That Should (or Should Not) Be Used – a 'Strong' Recommendation

The GDG uses 'offer' (and similar words such as 'refer' or 'advise') when confident that, for the vast majority of patients, an intervention will do more good than harm, and be cost-effective. Similar forms of words (for example, 'Do not offer…') are used when the GDG is confident that an intervention will not be of benefit for most patients.

Interventions That Could Be Used

The GDG uses 'consider' when confident that an intervention will do more good than harm for most patients, and be cost-effective, but other options may be similarly cost-effective. The choice of intervention, and whether or not to have the intervention at all, is more likely to depend on the patient's values and preferences than for a strong recommendation, and so the healthcare professional should spend more time considering and discussing the options with the patient.

Recommendation Wording in Guideline Updates

NICE began using this approach to denote the strength of recommendations in guidelines that started development after publication of the 2009 version of 'The guidelines manual' (January 2009). This does not apply to any recommendations ending [2004]. In particular, for recommendations labelled [2004] the word 'consider' may not necessarily be used to denote the strength of the recommendation.

Clinical Algorithm(s)

The following algorithms are provided in the original guideline document:

- Care and management of people in primary care
- Risk management in secondary care
- Surveillance in secondary care
- Referral to a specialist genetic clinic

In addition, a NICE pathway titled "Familial Breast Cancer Overview" is available from the National Institute for Health and Care Excellence (NICE) Web site .

Scope

Disease/Condition(s)

Familial breast cancer

Guideline Category

Counseling

Evaluation

Management

Prevention

Risk Assessment

Clinical Specialty

Family Practice

Internal Medicine

Medical Genetics

Obstetrics and Gynecology

Oncology

Preventive Medicine

Radiology

Intended Users

Advanced Practice Nurses

Allied Health Personnel

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

- To update the clinical guideline on 'Familial breast cancer: the classification and care of women at risk of familial breast cancer in primary, secondary and specialist genetic clinics'
- To produce a short clinical guideline on the diagnosis and management of affected women with hereditary breast cancer

Target Population

- Adult women (18 years and older) without breast cancer who may be at increased risk of developing breast cancer because of a family history of breast, ovarian or a related cancer
- Adult men (18 years and older) without breast cancer who may be at increased risk of developing breast cancer because of a family history of breast, ovarian, or a related cancer, for the consideration of risk thresholds for testing only
- Adult women and men (18 years and older) with a recent diagnosis of breast cancer and a family history of breast, ovarian or a related cancer

Note: Specific consideration will be given to the needs of people from groups with a particularly high prevalence of *BRCA1* or *BRCA2* mutations, such as people of Jewish origin.

Interventions and Practices Considered

1. Obtaining accurate family history of breast cancer
2. Use of a carrier probability calculation method with demonstrated acceptable performance to assess if a referral to a specialist genetic clinic is needed and the probability of a *BRCA1* or *BRCA2* mutation
3. Communicating cancer risk and carrier probability
4. Providing information and support
5. Care of people in primary care who do not meet the criteria for referral to secondary care
6. Referral to secondary care or a specialist genetic clinic for those who meet the criteria
7. Care of people in secondary care and specialist genetic clinics by a multidisciplinary team
8. Genetic counseling and testing for *BRCA1*, *BRCA2*, and *TP53* mutations
9. Surveillance and strategies for early detection of breast cancer:
    - Breast awareness
    - Ultrasound
    - Mammography
    - Magnetic resonance imaging (MRI)
10. Risk reduction and treatment strategies, with advice and counselling on the following:
    - Menstrual and reproductive factors
    - Hormonal contraceptives
    - Breastfeeding
    - Hormone replacement therapy (HRT)
    - Alcohol consumption
    - Smoking
    - Weight and physical activity
    - Chemoprevention (tamoxifen and raloxifene)
    - Risk-reducing mastectomy
    - Risk-reducing oophorectomy

Major Outcomes Considered

- Incidence of familial breast cancer
- Mortality from breast cancer
- Health related quality of life
- Clinical and cost-effectiveness of interventions

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Note from the National Guideline Clearinghouse (NGC): This guideline was developed by the National Collaborating Centre for Cancer (NCC-C) on behalf of the National Institute for Health and Care Excellence (NICE). See the "Availability of Companion Documents" field for the full version of this guidance.

Scoping Search

An initial scoping search for published guidelines, systematic reviews, economic evaluations and ongoing research was carried out on the following databases or Web sites: National Library for Health (NLH) Guidelines Finder (now NHS Evidence), National Guideline Clearinghouse, Cochrane Database of Systematic Reviews (CDSR), Heath Technology Assessment Database (HTA), NHS Economic Evaluations Database (NHSEED), DH Data, Medline and EMBASE.

At the beginning of the development phase, initial scoping searches were carried out to identify any relevant guidelines (local, national or international) produced by other groups or institutions.

Searching for the Evidence

In order to answer each question the NCC-C information specialist developed a search strategy to identify relevant published evidence for both clinical and cost-effectiveness. Key words and terms for the search were agreed in collaboration with the Guideline Development Group (GDG). When required, the health economist searched for supplementary papers to inform detailed health economic work (see section on "Incorporating Health Economic Evidence" in the full version of the original guideline document).

Search filters, such as those to identify systematic reviews (SRs) and randomised controlled trials (RCTs) were applied to the search strategies when there was a wealth of these types of studies. No language restrictions were applied to the search; however, foreign language papers were not requested or reviewed (unless of particular importance to that question).

The following databases were included in the literature search:

- The Cochrane Library
- Medline and Premedline 1950 onwards
- Excerpta Medica (EMBASE) 1980 onwards
- Cumulative Index to Nursing and Allied Health Literature (CINAHL) 1982 onwards
- Allied & Complementary Medicine (AMED) 1985 onwards
- British Nursing Index (BNI) 1985 onwards
- PsycINFO 1806 onwards
- Web of Science (specifically Science Citation Index Expanded)
- (SCI-EXPANDED) 1899 onwards and Social Sciences Citation Index (SSCI) 1956 onwards
- Biomed Central 1997 onwards

From this list the information specialist sifted and removed any irrelevant material based on the title or abstract before passing to the researcher. All the remaining articles were then stored in a Reference Manager electronic library.

Searches were updated and re-run 8–10 weeks before the stakeholder consultation, thereby ensuring that the latest relevant published evidence was included in the database. Any evidence published after this date was not included. For the purposes of updating this guideline, September 2012 should be considered the starting point for searching for new evidence.

Further details of the search strategies, including the methodological filters used, are provided in the evidence review in the full version of the original guideline document.

Critical Appraisal

From the literature search results database, one researcher scanned the titles and abstracts of every article for each question and full publications were ordered for any studies considered relevant or if there was insufficient information from the title and abstract to inform a decision. When the papers were obtained the researcher applied inclusion/exclusion criteria to select appropriate studies, which were then critically appraised.

Economic Literature Search

For each topic, a review of the economic literature was conducted. Where published economic evaluation studies were identified that addressed the economic issues for a clinical question, these are presented alongside the clinical evidence wherever possible. For those clinical areas reviewed, the information specialists used a similar search strategy as used for the review of clinical evidence but with the inclusion of a health economics filter.

For systematic searches of published economic evidence, the following databases were included:

- Medline
- EMBASE
- NHS Economic Evaluation Database (NHS EED)
- Health Technology Assessment (HTA)
- Health Economic Evaluations Database (HEED)

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Overall Quality of Outcome Evidence in Grading of Recommendations, Assessment, Development and Evaluation (GRADE)

Quality Element	Description
High	Further research is very unlikely to change the authors' confidence in the estimate of effect.
Moderate	Further research is likely to have an important impact on the authors' confidence in the estimate of effect and may change the estimate.
Low	Further research is very likely to have an important impact on the authors' confidence in the estimate of effect and is likely to change the estimate
Very Low	Any estimate of effect is very uncertain

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Note from the National Guideline Clearinghouse (NGC): This guideline was developed by the National Collaborating Centre for Cancer (NCC-C) on behalf of the National Institute for Health and Care Excellence (NICE). See the "Availability of Companion Documents" field for the full version of this guidance.

Critical Appraisal

From the literature search results database, one researcher scanned the titles and abstracts of every article for each question and full publications were ordered for any studies considered relevant or if there was insufficient information from the title and abstract to inform a decision. When the papers were obtained the researcher applied inclusion/exclusion criteria to select appropriate studies, which were then critically appraised. For each question, data on the type of population, intervention, comparator and outcomes (PICO) were extracted and recorded in evidence tables and an accompanying evidence summary prepared for the Guideline Development Group (GDG) (see evidence review in the full version of the original guideline document). All evidence was considered carefully by the GDG for accuracy and completeness.

Grading of Recommendations, Assessment, Development and Evaluation (GRADE)

For interventional questions, studies which matched the inclusion criteria were evaluated and presented using a modification of GRADE (NICE guidelines manual, 2009; http://gradeworking group.org/). Where possible this included meta-analysis and synthesis of data into a GRADE 'evidence profile'. The evidence profile shows, for each outcome, an overall assessment of both the quality of the evidence as a whole (low, moderate, or high) as well as an estimate of the size of effect. A narrative summary (evidence statement) was also prepared.

Each topic outcome was examined for the quality elements (limitations, inconsistency, indirectness, imprecision, and publication bias) and subsequently graded using the quality levels provided in the "Rating Scheme for the Strength of the Evidence" field. The reasons for downgrading or upgrading specific outcomes were explained in footnotes.

All procedures were fully compliant with NICE methodology as detailed in the NICE guideline manual, 2009 (see the "Availability of Companion Documents" field). In general, no formal contact was made with authors; however, there were ad hoc occasions when this was required in order to clarify specific details.

For non-interventional questions, for example the questions regarding diagnostic test accuracy, a narrative summary of the quality of the evidence was given. The quality of individual diagnostic accuracy studies was assessed using the Quality Assessment of Diagnostic Accuracy Studies (QUADAS) tool.

Needs Assessment

As part of the guideline development process the NCC-C invited a specialist registrar (see Appendix D5 of the full version of the original guideline), with the support of the GDG, to undertake a needs assessment (see also Chapter 1 in the full version of the original guideline and the full needs assessment report; see the "Availability of Companion Documents" field). The needs assessment aims to describe current service provision for patients with familial breast cancer in England and Wales, which informed the development of the guideline.

Assessment of the effectiveness of interventions is not included in the needs assessment, and was undertaken separately by researchers in the NCC-C as part of the guideline development process.

The information included in the needs assessment document was presented to the GDG. Most of the information was presented in the early stages of guideline development, and other information was included to meet the evolving information needs of the GDG during the course of guideline development.

Incorporating Health Economics Evidence

The aim of providing economic input into the development of the guideline was to inform the GDG of potential economic issues relating to familial breast cancer. Health economics is about improving the health of the population through the efficient use of resources. In addition to assessing clinical effectiveness, it is important to investigate whether health services are being used in a cost-effective manner in order to maximise health gain

from available resources.

Prioritising Topics for Economic Analysis

After the clinical questions had been defined, and with the help of the health economics team, the GDG discussed and agreed which of the clinical questions were potential priorities for economic analysis. These economic priorities were chosen on the basis of the following criteria, in broad accordance with the NICE guidelines manual, 2009:

- The overall importance of the recommendation, which may be a function of the number of patients affected and the potential impact on costs and health outcomes per patient
- The current extent of uncertainty over cost-effectiveness, and the likelihood that economic analysis will reduce this uncertainty
- The feasibility of building an economic model

For each topic, a review of the economic literature was conducted. Where published economic evaluation studies were identified that addressed the economic issues for a clinical question, these are presented alongside the clinical evidence wherever possible.

Methods for Reviewing and Appraising Economic Evidence

The aim of reviewing and appraising the existing economic literature is to identify relevant economic evaluations that compare both costs and health consequences of alternative interventions and that are applicable to NHS practice. Thus studies that only report costs, non-comparative studies or 'cost of illness' studies are generally excluded from the reviews.

Economic studies identified through a systematic search of the literature are appraised using a methodology checklist designed for economic evaluations. This checklist is not intended to judge the quality of a study per se, but to determine whether an existing economic evaluation is useful to inform the decision-making of the GDG for a specific topic within the Guideline. There are two parts to the appraisal process; the first step is to assess applicability (i.e., the relevance of the study to the specific guideline topic and the NICE reference case) (see Table D in the full version of the original guideline document).

In the second step, only those studies deemed directly or partially applicable are further assessed for limitations (i.e., the methodological quality; see Table E in the full version of the original guideline document).

Where relevant, a summary of the main findings from the systematic search, review and appraisal of economic evidence is presented in an economic evidence profile alongside the GRADE table for clinical evidence.

If high-quality published economic evidence relevant to current NHS practice was identified through the search, the existing literature was reviewed and appraised as described above. However, it is often the case that published economic studies may not be directly relevant to the specific clinical question as defined in the guideline or may not be comprehensive or conclusive enough to inform UK practice. In such cases, for priority topics, consideration was given to undertaking a new economic analysis as part of this guideline.

Economic Modelling

Once the need for a new economic analysis for high priority topics had been agreed by the GDG, the health economist investigated the feasibility of developing an economic model. In the development of the analysis, the following general principles were adhered to:

- The GDG subgroup was consulted during the construction and interpretation of the analysis
- The analysis was based on the best available clinical evidence from the systematic review
- Assumptions were reported fully and transparently
- Uncertainty was explored through sensitivity analysis
- Costs were calculated from a health services perspective
- Outcomes were reported in terms of quality-adjusted life years

Methods Used to Formulate the Recommendations

Expert Consensus

Informal Consensus

Description of Methods Used to Formulate the Recommendations

Note from the National Guideline Clearinghouse (NGC): This guideline was developed by the National Collaborating Centre for Cancer (NCC-C) on behalf of the National Institute for Health and Care Excellence (NICE). See the "Availability of Companion Documents" field for the full version of this guidance.

The Guideline Development Group (GDG)

The familial breast cancer GDG was recruited in line with the NICE guidelines manual, 2009 (see the "Availability of Companion Documents" field). The first step was to appoint a Chair and a Lead Clinician. Advertisements were placed for both posts and candidates were interviewed before being offered the role. The NCC-C Director, GDG Chair and Lead Clinician identified a list of specialties that needed to be represented on the GDG. Details of the adverts were sent to the main stakeholder organisations, cancer networks and patient organisations/charities (see Appendix D4 in the full version of the original guideline document).

Individual GDG members were selected by the NCC-C Director, GDG Chair and Lead Clinician, based on their application forms. The guideline development process was supported by staff from the NCC-C, who undertook the clinical and health economics literature searches, reviewed and presented the evidence to the GDG, managed the process and contributed to drafting the guideline.

Guideline Development Group Meetings

Nine GDG meetings were held between 18th July 2011 and 2nd November 2012. During each GDG meeting (held over either one or two days) clinical questions and clinical and economic evidence were reviewed, assessed and recommendations formulated. At each meeting patient/carer and service-user concerns were routinely discussed as part of a standing agenda item.

NCC-C project managers divided the GDG workload by allocating specific clinical questions, relevant to their area of clinical practice, to small sub-groups of the GDG in order to simplify and speed up the guideline development process. These groups considered the evidence, as reviewed by the researcher, and synthesised it into draft recommendations before presenting it to the GDG. These recommendations were then discussed and agreed by the GDG as a whole. Each clinical question was led by a GDG member with expert knowledge of the clinical area (usually one of the healthcare professionals). The GDG subgroups often helped refine the clinical questions and the clinical definitions of treatments. They also assisted the NCC-C team in drafting the section of the guideline relevant to their specific topic.

Patient/Carer Members

Individuals with direct experience of familial breast cancer gave an important user focus to the GDG and the guideline development process. The GDG included three patient/carer members. They contributed as full GDG members to writing the clinical questions, helping to ensure that the evidence addressed their views and preferences, highlighting sensitive issues and terminology relevant to the guideline and bringing service-user research to the attention of the GDG.

Developing Clinical Evidence-Based Questions

Clinical guidelines should be aimed at improving clinical practice and should avoid ending up as 'evidence-based textbooks' or making recommendations on topics where there is already agreed clinical practice. Therefore the list of key clinical issues listed in the scope were developed in areas that were known to be controversial or uncertain, where there was identifiable practice variation, or where NICE guidelines were likely to have most impact.

From each of the key clinical issues identified in the scope the GDG formulated a clinical question. For clinical questions about interventions, the PICO framework was used. This structured approach divides each question into four components: P - the population (the population under study), I -, the interventions (what is being done), C - the comparisons (other main treatment options), O - the outcomes (the measures of how effective the interventions have been). Where appropriate, the clinical questions were refined once the evidence had been searched and, where necessary, sub-questions were generated.

Agreeing the Recommendations

For each clinical question the GDG were presented with a summary of the clinical evidence, and, where appropriate, economic evidence, derived from the studies reviewed and appraised. From this information the GDG were able to derive the guideline recommendations. The link between the evidence and the view of the GDG in making each recommendation is made explicit in the accompanying LETR statement.

Linking Evidence to Recommendations (LETR) Statements

As clinical guidelines were previously formatted, there was limited scope for expressing how and why a GDG made a particular recommendation from the evidence of clinical and cost-effectiveness. To make this process more transparent to the reader, NICE have introduced an explicit, easily understood and consistent way of expressing the reasons for making each recommendation. This is known as the 'LETR statement' and will usually

cover the following key points:

- The relative value placed on the outcomes considered
- The strength of evidence about benefits and harms for the intervention being considered
- The costs and cost-effectiveness of an intervention
- The quality of the evidence
- The degree of consensus within the GDG
- Other considerations – for example equalities issues

Where evidence was weak or lacking the GDG agreed the final recommendations through informal consensus. Shortly before the consultation period, 10 key priorities and 5 key research recommendations were selected by the GDG for implementation and the patient algorithms were agreed. To avoid giving the impression that higher grade recommendations are of higher priority for implementation, NICE no longer assigns grades to recommendations.

Rating Scheme for the Strength of the Recommendations

Strength of Recommendations

Some recommendations can be made with more certainty than others. The Guideline Development Group (GDG) makes a recommendation based on the trade-off between the benefits and harms of an intervention, taking into account the quality of the underpinning evidence. For some interventions, the GDG is confident that, given the information it has looked at, most patients would choose the intervention. The wording used in the recommendations in this guideline denotes the certainty with which the recommendation is made (the strength of the recommendation).

Interventions That Must (or Must Not) Be Used

The GDG usually uses 'must' or 'must not' only if there is a legal duty to apply the recommendation. Occasionally 'must' (or 'must not') is used if the consequences of not following the recommendation could be extremely serious or potentially life threatening.

Interventions That Should (or Should Not) Be Used – a 'Strong' Recommendation

The GDG uses 'offer' (and similar words such as 'refer' or 'advise') when confident that, for the vast majority of patients, an intervention will do more good than harm, and be cost-effective. Similar forms of words (for example, 'Do not offer…') are used when the GDG is confident that an intervention will not be of benefit for most patients.

Interventions That Could Be Used

The GDG uses 'consider' when confident that an intervention will do more good than harm for most patients, and be cost-effective, but other options may be similarly cost-effective. The choice of intervention, and whether or not to have the intervention at all, is more likely to depend on the patient's values and preferences than for a strong recommendation, and so the healthcare professional should spend more time considering and discussing the options with the patient.

Recommendation Wording in Guideline Updates

The National Institute for Health and Care Excellence (NICE) began using this approach to denote the strength of recommendations in guidelines that started development after publication of the 2009 version of 'The guidelines manual' (January 2009). This does not apply to any recommendations ending [2004] (see the "Major Recommendations" field for details about how recommendations are labelled). In particular, for recommendations labelled [2004] the word 'consider' may not necessarily be used to denote the strength of the recommendation.

Cost Analysis

Where relevant, a summary of the main findings from the systematic search, review and appraisal of economic evidence is presented in an economic evidence profile alongside the Grading of Recommendations Assessment, Development and Evaluation (GRADE) table for clinical evidence in the full version of the original guideline.

If high-quality published economic evidence relevant to current National Health Service (NHS) practice was identified through the search, the existing literature was reviewed and appraised as described above. However, it is often the case that published economic studies may not be directly relevant to the specific clinical question as defined in the guideline or may not be comprehensive or conclusive enough to inform UK

practice. In such cases, for priority topics, consideration was given to undertaking a new economic analysis as part of this guideline. For a complete discussion of all economic evidence and the economic models developed, see the full cost-effectiveness evidence review and report (see the "Availability of Companion Documents" field).

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

Consultation and Validation of the Guideline

The draft of the guideline was prepared by the National Collaborating Centre for Cancer (NCC-C) staff in partnership with the Guideline Development Group (GDG) Chair and Lead Clinician. This was then discussed and agreed with the GDG and subsequently forwarded to the National Institute for Health and Care Excellence (NICE) for consultation with stakeholders. Registered stakeholders (see Appendix D4 in the full version of the original guideline) had one opportunity to comment on the draft guideline which was posted on the NICE website between 15 January 2013 and 25 February 2013 in line with NICE methodology (NICE 2012).

The Pre-Publication Process

An embargoed pre-publication of the guideline was released to registered stakeholders to allow them to see how their comments have contributed to the development of the guideline and to give them time to prepare for publication (NICE 2012). The final document was then submitted to NICE for publication on their website. The other versions of the guideline were also discussed and approved by the GDG and published at the same time.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate classification and care of people at risk of familial breast cancer and management of breast cancer and related risks in people with a family history of breast cancer

Potential Harms

- A minority of women, do express regrets and experience adverse psychosocial events following their risk-reducing mastectomy.
- Negative impacts of surgery on sexual functioning and menopausal symptoms have been reported in small, qualitative, retrospective studies.
- Postoperative complications and adverse effects of surgery (mastectomy or oophorectomy)
- Adverse effects of chemoprevention (tamoxifen and raloxifene)

Contraindications

Contraindications

- Contraindications to risk-reducing surgery for people with a personal history of breast cancer:
  - People with comorbidities that would considerably increase the risks of surgery
  - People who have a limited life expectancy from their cancer or other conditions
- Gynaecological oncologists would consider hormone replacement therapy (HRT) as a contraindication in women with a previous diagnosis of oestrogen receptor and progesterone receptor (ER/PR) positive breast cancer, current diagnosis of any type of breast cancer, or if there is a history of liver disease, deep vein thrombosis and pulmonary embolism.

Qualifying Statements

Qualifying Statements

- This guidance represents the view of the National Institute for Health and Care Excellence (NICE), which was arrived at after careful consideration of the evidence available. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. However, the guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer, and informed by the summaries of product characteristics of any drugs.
- Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity and foster good relations. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties.
- Treatment and care should take into account individual needs and preferences. Patients should have the opportunity to make informed decisions about their care and treatment, in partnership with their healthcare professionals. If someone does not have the capacity to make decisions, healthcare professionals should follow the Department of Health's advice on consent, the code of practice that accompanies the Mental Capacity Act and the supplementary code of practice on deprivation of liberty safeguards. In Wales, healthcare professionals should follow advice on consent from the Welsh Government.
- The guideline will assume that prescribers will use a drug's summary of product characteristics to inform decisions made with individual patients.
- This guideline recommends some drugs for indications for which they do not have a UK marketing authorisation at the date of publication, if there is good evidence to support that use. The prescriber should follow relevant professional guidance, taking full responsibility for the decision.

Implementation of the Guideline

Description of Implementation Strategy

Implementation tools and resources to help put the guideline into practice are available on the National Institute for Health and Care Excellence (NICE) Web site (see also the "Availability of Companion Documents" field).

Key Priorities for Implementation

The following recommendations have been identified as priorities for implementation.

Family History and Carrier Probability

- When available in secondary care, use a carrier probability calculation method with demonstrated acceptable performance (calibration and discrimination) as well as family history to determine who should be offered referral to a specialist genetic clinic. Examples of acceptable methods include Breast and Ovarian Analysis of Disease Incidence and Carrier Estimation Algorithm (BOADICEA) and the Manchester scoring system. [new 2013]

Information and Support

- To ensure a patient–professional partnership, patients should be offered individually tailored information, including information about sources of support (including local and national organisations). [2004]

Carrier Probability at Which Genetic Testing Should Be Offered

- Offer genetic testing in specialist genetic clinics to a relative with a personal history of breast and/or ovarian cancer if that relative has a combined *BRCA1* and *BRCA2* mutation carrier probability of 10% or more. [new 2013]
- Offer genetic testing in specialist genetic clinics to a person with no personal history of breast or ovarian cancer if their combined *BRCA1* and *BRCA2* mutation carrier probability is 10% or more and an affected relative is unavailable for testing. [new 2013]

Surveillance for Women with No Personal History of Breast Cancer

- Offer annual mammographic surveillance to women:
  - Aged 40–49 years at moderate risk of breast cancer
  - Aged 40–59 years at high risk of breast cancer but with a 30% or lower probability of being a *BRCA* or *TP53* carrier
  - Aged 40–59 years who have not had genetic testing but have a greater than 30% probability of being a *BRCA* carrier
  - Aged 40–69 years with a known *BRCA1* or *BRCA2* mutation [new 2013]
- Offer annual magnetic resonance imaging (MRI) surveillance to women:
  - Aged 30–49 years who have not had genetic testing but have a greater than 30% probability of being a *BRCA* carrier
  - Aged 30–49 years with a known *BRCA1* or *BRCA2* mutation
  - Aged 20–49 years who have not had genetic testing but have a greater than 30% probability of being a *TP53* carrier
  - Aged 20–49 years with a known *TP53* mutation [new 2013]

Surveillance for Women with a Personal and Family History of Breast Cancer

- Offer annual mammographic surveillance to all women aged 50–69 years with a personal history of breast cancer who:
  - Remain at high risk of breast cancer (including those who have a *BRCA1* or *BRCA2* mutation), and
  - Do not have a *TP53* mutation [new 2013]
- Offer annual MRI surveillance to all women aged 30–49 years with a personal history of breast cancer who remain at high risk of breast cancer, including those who have a *BRCA1* or *BRCA2* mutation. [new 2013]

Chemoprevention for Women with No Personal History of Breast Cancer

- Offer either tamoxifen[1] or raloxifene[2] for 5 years to postmenopausal women with a uterus and at high risk of breast cancer unless they have a past history or may be at increased risk of thromboembolic disease or endometrial cancer. [new 2013]

Risk-reducing Mastectomy for Women with No Personal History of Breast Cancer

- All women considering bilateral risk-reducing mastectomy should be able to discuss their breast reconstruction options (immediate and delayed) with a member of a surgical team with specialist oncoplastic or breast reconstructive skills. [2004]

[1] At the time of publication (June 2013), tamoxifen did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information.

[2] At the time of publication (June 2013), raloxifene did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information.

Implementation Tools

Clinical Algorithm

Foreign Language Translations

Mobile Device Resources

Patient Resources

Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

National Collaborating Centre for Cancer. Familial breast cancer. Classification and care of people at risk of familial breast cancer and management of breast cancer and related risks in people with a family history of breast cancer. London (UK): National Institute for Health and Care Excellence (NICE); 2013 Jun. 57 p. (Clinical guideline; no. 164).

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2004 May (revised 2013 Jun)

Guideline Developer(s)

National Collaborating Centre for Cancer - National Government Agency [Non-U.S.]

Source(s) of Funding

National Institute for Health and Care Excellence (NICE)

Guideline Committee

Guideline Development Group

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Financial Disclosures/Conflicts of Interest

At the start of the guideline development process all Guideline Development Group (GDG) members' interests were recorded on a standard declaration form that covered consultancies, fee-paid work, share-holdings, fellowships and support from the healthcare industry. At all subsequent GDG meetings, members declared new, arising conflicts of interest which were always recorded (see Appendix D1 of the full version of the original guideline document [see the "Availability of Companion Documents" field]).

Guideline Status

This is the current release of the guideline.

This guideline updates previous versions: National Collaborating Centre for Primary Care. Clinical guidelines for the classification and care of women at risk of familial breast cancer in primary, secondary and tertiary care. London (UK): National Institute for Clinical Excellence (NICE); 2004 May. 311 p. [309 references]

National Collaborating Centre for Primary Care. Familial breast cancer. The classification and care of women at risk of familial breast cancer in primary, secondary and tertiary care. London (UK): National Institute for Health and Clinical Excellence (NICE); 2006 Jul. 75 p. [24 references]

Guideline Availability

Electronic copies: Available from the National Institute for Health and Care Excellence (NICE) Web site .

Availability of Companion Documents

The following are available:

- Familial breast cancer: classification and care of people at risk of familial breast cancer and management of breast cancer and related risks in people with a family history of breast cancer. Full guideline. London (UK): National Institute for Health and Care Excellence (NICE); 2013 Jun. 265 p. (Clinical guideline; no. 164). Electronic copies: Available in Portable Document Format (PDF) from the National Institute for Health and Care Excellence (NICE) Web site .
- Familial breast cancer: classification and care of people at risk of familial breast cancer and management of breast cancer and related risks in people with a family history of breast cancer. Appendices. London (UK): National Institute for Health and Care Excellence (NICE); 2013 Jun. (Clinical guideline; no. 164). Electronic copies: Available in PDF from the NICE Web site .
- Familial breast cancer: classification and care of women at risk of familial breast cancer and management of breast cancer and related risks in people with a family history of breast cancer. Update of clinical guideline 14 and 41. Clinical evidence reviews, 2004, 2006 & 2013. London (UK): National Institute for Health and Care Excellence (NICE); 2013 Jun. 636 p. (Clinical guideline; no. 164). Electronic copies:

Available in PDF from the NICE Web site.

- Familial breast cancer: classification and care of women at risk of familial breast cancer and management of breast cancer and related risks in people with a family history of breast cancer. Update of clinical guideline 14 and 41 Health economics evidence reviews & full reports 2004, 2006 & 2013. Health economics plan, 2013. Cost-effectiveness evidence review. London (UK): National Institute for Health and Care Excellence (NICE); 2013 Jun. 272 p. (Clinical guideline; no. 164). Electronic copies: Available in PDF from the NICE Web site.
- Familial breast cancer: classification and care of women at risk of familial breast cancer and management of breast cancer and related risks in people with a family history of breast cancer. Needs assessment. London (UK): National Institute for Health and Care Excellence (NICE); 2013 Jun. 29 p. (Clinical guideline; no. 164). Electronic copies: Available in PDF from the NICE Web site.
- Familial breast cancer: classification and care of people at risk of familial breast cancer and management of breast cancer and related risks in people with a family history of breast cancer. Baseline assessment tool. London (UK): National Institute for Health and Care Excellence (NICE); 2013 Jun. (Clinical guideline; no. 164). Electronic copies: Available from the NICE Web site.
- Familial breast cancer: classification and care of people at risk of familial breast cancer and management of breast cancer and related risks in people with a family history of breast cancer. Costing report. London (UK): National Institute for Health and Care Excellence (NICE); 2013 Jun. 42 p. (Clinical guideline; no. 164). Electronic copies: Available from the NICE Web site.
- Familial breast cancer: classification and care of people at risk of familial breast cancer and management of breast cancer and related risks in people with a family history of breast cancer. Costing template. London (UK): National Institute for Health and Care Excellence (NICE); 2013 Jun. (Clinical guideline; no. 164). Electronic copies: Available from the NICE Web site.
- Familial breast cancer: classification and care of people at risk of familial breast cancer and management of breast cancer and related risks in people with a family history of breast cancer. Podcast. London (UK): National Institute for Health and Care Excellence (NICE); 2013 Jun. (Clinical guideline; no. 164). Electronic copies: Available from the NICE Web site.
- Familial breast cancer: classification and care of people at risk of familial breast cancer and management of breast cancer and related risks in people with a family history of breast cancer. Educational resource. London (UK): National Institute for Health and Care Excellence (NICE); 2013 Jun. 2 p. (Clinical guideline; no. 164). Electronic copies: Available in PDF from the NICE Web site.
- Familial breast cancer: overview. NICE pathway. London (UK): National Institute for Health and Care Excellence (NICE); 2013 July. (Clinical guideline; no. 164). Electronic copies: Available from the NICE Web site.
- The guidelines manual 2009. London (UK): National Institute for Health and Care Excellence (NICE); 2009 Jan. Electronic copies: Available from the NICE Web site.

Patient Resources

The following is available:

- Familial breast cancer (breast cancer in the family). Information for the public. London (UK): National Institute for Health and Care Excellence (NICE); 2013 Jun. (Clinical guideline; no. 164). 2013 Jun. Electronic copies: Available from the National Institute for Health and Care Excellence (NICE) Web site. Also available for download as a Kindle or EPUB ebook from the NICE Web site. Also available in Welsh from the NICE Web site.

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NGC Status

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